



Fire Wall MFG Firefighter Uniform Inc.

BUF 2255: Merchandising Retailing

NYC College of Technology

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May 18, 2021

Table of Contents

1. Team members3

2. Abstract 6

3. About Fire Wall MFG 7

4. Why Our Jackets Are The Best 9

5. Textile10

6. Products features12

7. Floor Plan Layout13

8. SKU14

9. Style Descriptions21

10. Fabric Selection25

11. Color Palettes27

12. Open-to-Buy Plans28

 Part A28

 Part B28

 Part C31

13. Reference32

14. Figures34

Team Members



ChiWai Li

ChiWai Li is a Merchandise Planning Analyst and Merchandise Buyer of Fire Wall MGF firefighter uniform Inc. This course provides multiple facets of merchandise retailing perspective. The mathematics part makes me nervous first since I have not touched math problems more than a decade ago. But more practice is the primary key to make it to the right place. When I shop at the Marshall, I always wonder how this store works? Many inventories in store and how they deal with the skincare merchandise that customers don't purchase after trying it out. One time, I saw someone leave the store without paying. Will the store note the missing merchandise? Luckily, I need to take this class for my major. This course answers my question a lot. I realize Merchandise Retailing is such a complex field. I imagine the connection behind the scenes that is relevant to many different functions within the organization. Each department serves a unique purpose but collaborates with one goal – choose the right products for profit.



David Bautista

David Bautista is the Inventory Control Specialist and in charge of architecture for Fire Wall MFG's retail store. He was in charge of creating the floor plan layout and creating the skus for Fire Wall MFG's merchandise, with the help of Chi Wai. He also created the company's logo. This project has also taught me how to create a floor layout, plan out what merchandise should go where in a retail store like where should this jacket be placed in the store, the front or back? This project also taught me how to organize, separate and keep track of merchandise inventory, which I can apply to in my everyday life since I deal with shoes everyday from buying to sorting.



Antonio Franklin

Antonio Franklin is the Creative Director and Head of Tech at Fire Wall MFG. He came up with the idea of Fire Wall MFG and the revolutionary tech that is Heat Tech. He handled the introduction which includes the goal of Fire Wall MFG, their store location, what Heat Tech does, and why they chose this profession. With the help from ChiWai, he carefully picked the perfect colors to be used for the jackets while ChiWai executed the design. In addition to his creative lead of Fire Wall MFG, Antonio also handled the Open To Buy for each month (with final checks from ChiWai), Average Monthly Sales, Average monthly on order, and finally the Markdown percent for each month.



Abstract

The firefighter is one of the most hazardous careers requiring extraordinary safety turnout gears to protect from danger during the operation. About a few hundred years ago, the firefighters had to fight the flame and heat with the bare body since lack of modern technology support (Hasenmeier, 2008). Without low protection gear, they could not go inside the fire building, which could delay the rescues who trap inside the building. As the firefighter's gear evolved, today, firefighter's gear provides much more protection. It saves more lives and protects firefighters as well. Fire Wall MFG Firefighter Uniform Inc. mainly focuses on turnout jackets and pants. The company introduces a unique modern wearable technology turnouts clothing that will add to the existing basic stock line. This paper covers the unique features of products, textile fabrication, and style description. It also discusses the company's open-to-buying schedules and sales forecasting for the following year. It is so essential to analyze the current data for further selling plans.

Keyword: firefighter protection, turnout gear, firefighter uniform, wearable technology, products features, textile fabrication, style description, open-to-buy



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About Fire Wall MFG

Fire Wall MFG is a brand that sells firefighter uniforms with its own twist on it. The usual fireman uniform has stayed the same for years and it needed an upgrade so that's where they came in. Fire Wall MFG introduces a brand new technology called "Heat Tech". Heat Tech is revolutionary for firemen because it keeps them cooler on the job than any other uniform. Heat Tech is sewn into the materials in a way where the top layer takes in heat and converts it into energy, this energy is then used to power the bottom layer which is where the skin would be and it makes the interior cooler. This is essential for a firefighter because the last thing people need is them passing out from the intense heat from the fires, so with this tech the hotter it gets the cooler they get. Not only is Fire Wall MFG bringing new tech to such an outdated uniform, they are also bringing new colors for a sense of change. There are 6 colors, the usual tan, black, burgundy, violet, forest green, and orange. The store is located in Shreveport-Bossier City, LA which has the most active fire fighters, in the state with the most fires. This is perfect for Fire Wall MFG because it would be the go to store for those firefighters and eventually they could branch out from there. Fire Wall MFG strives to be unique and very different from the average firemen uniform companies. It's because of them that the rules of uniforms for firemen have

changed. Fire Wall MFG wanted firefighters to have a chance to feel unique and hone their sense of style while on the job. This is why Fire Wall MFG introduced the idea of different colored uniforms. It was a challenge at first to get this authorized due to uniforms generally needing to stay the same color but they finally got the OK and have been producing products of different colors that still represent the Fire Department. Fire Walls MFG's very own technology Heat Tech took 2 years to perfect. The idea stems from the fact that a majority of firefighters have or currently deal with heat related illness or HRI. This obviously is a problem when their job is all about dealing with fires and heat. So Fire Wall MFG invested all their time into Heat Tech because they knew it would be very beneficial to firefighters. Heat Tech only starts to work once the outer layer of the jacket has reached a temperature of 85 degrees fahrenheit, this will then have the inner layers of the jacket start to cool. Heat Tech is quite advanced, they made sure the inner cooling layer perfectly negates the heat radiating from the outside so the wearer is not too cold or too hot but perfectly balanced.

Fire Wall MFG chose to go with tan, black, burgundy, violet, forest green, and orange because it was best to go with colors that weren't overly bright and clashy since they had to keep the 3M on the jacket. These colors are also perfectly unisex, so both genders can partake in these colors. In Shreveport- Bossier City Los Angeles there are 860 Fire Department Jobs which is a big reason as to why Fire Wall MFG is located there. With each of the fire fighters salaries being \$51,150 they knew the firefighters would be able to afford the product. Their next destination is Florida. They hope to expand the company to all major cities around the United States that have many fires so that Fire Wall MFG and its Heat Tech can potentially save the lives of those that are saving ours. Fire Wall MFG is not just for convenience or style, but for the wellbeing of those firefighters risking their lives for citizens, every time they call.



Why Our Jackets Are The Best

Fire Wall MFG's jackets are currently the best in the market compared to other competitors. One reason is the technology in the jackets. As previously mentioned, Heat Tech is a fabric where the top layer absorbs and converts heat into energy, which then the bottom layer uses that energy to cool down the interior of the jacket. No other brand or company has this type of technology applied on to their jackets, Fire Wall MFG is currently the only company to be using this kind of technology. Not only can the jackets cool down a firefighter, but it is also lightweight. According to The Haddam Volunteer Fire Company, a regular firefighter jacket weighs at least 20 lbs because they carry a total weight of around 45 lbs in just the outfit (2013). Fire Wall MFG's jackets weigh half of those 20 lbs. Fire Wall MFG has made sure to use a lightweight fabric when combining it with Heat Tech. Instead of increasing the weight a firefighter must carry, the weight will be slightly decreasing. It's not a drastic amount of weight the jackets will be removing but it'll allow firefighters to maneuver around more easily. A third reason our jackets are better than the rest is the variety of colors we offer to our customers. Our jackets come in six different colors: tan, black, burgundy, forest green, violet, and orange. Another reason Fire Wall MFG's jackets beat competitors is the retail price of the jackets. Retail prices for a regular firefighter jacket can range from \$1,200 to \$2,500 (Knoll JR, 2011). Fire Wall MFG's jackets retail at \$1,500. The price is reasonable considering Fire Wall MFG's new HeatTech technology, the lightweight fabric and the color variety the jackets have.



Textile

Fire Wall MFG understands that firefighting is one of the most hazardous careers requiring extraordinary safety turnout gears to protect from danger during the operation. MFG promises a commitment to providing the most advanced fabrication of turnout garments that meet beyond the standard according to the National Fire Protection Association (NFPA)1971 (Sarkar, 2014), so customers can feel confident while on the duty.

Outer Shell

The turnout coat and turnout pants consist of three essential layers defense against exposure to heat, flame, and prevent mechanical incidents of tears, cuts, and abrasion. The outer shell of the turnout coat contains a detachable thermal liner and moisture barrier. The outer shell comprises different high-quality flame retardant fibers such as Nomex, Kevlar, Technora, Zylon, and Basofil. These fabric characteristics have similar properties and characteristic features such as excellent flame retardant, heat resistant, dimensional stability, industrial chemical resistance, tenacity strength, creep resistance, water repellent, fatigue, and abrasion resistance (Makinen, 2008). Typical blend fabrication includes Nomex/Kevlar, Basofil/Kevlar/Nomex, and Zylon/Technora, resulting ultimately in more flexibility and elongation. Besides, every single

stitch for the turnout clothing assembly from superiority quality threads in particularly Nomex and Kevlar (Sarkar, 2014). Overall, it protects every inch of the skin of the firefighters.

Moisture Barrier

The second layer, the moisture barrier, is constructed with moisture-wicking fabric that helps firefighters stay breezy and dry in blaze conditions. This layer also serves as a shelter to prevent chemicals, water, and germ. The fabric substrate uses for that layer from the variation of Nomex fabric like Nomex IIIA or blended with Nomex and Kevlar (Sarkar, 2014). Thus, that allows sufficient breathability.

Thermal Liner

The innermost layer is the thermal liner that provides an insulation solution compliance to the turnout system of Thermal Protective Performance (TPP) rate (Sarkar, 2014). The liner is made of Nomex, Twaron and Nylon blend, and Lenzing FR. The primary purpose of the thermal liner is to limit the amount of heat penetration into the body of the firefighter.

The turnout apparel certifies with functional properties test from FTM 191A 5903, ASTM F1359, ASTM F1060, and FMS 191A 1534. FTM 191A 5930 measures the garment materials (Sarkar, 2014). ASTM F1359 determines garment water penetration or absorption and liquid penetration, ASTM F1060 scales garment heat resistance in the shoulder and knee area, FMS 191A 1534 rates the thread performance.



Products features

The turnout pants build with a triple knee pleat that increases flexibility and versatility. The sturdy knee pad provides utmost support when crawling under smokes. All turnout jacket constructs with overlapping storm flaps with zipper and Velcro front closures add extra security during the aggressive motion. The high collar builds in with adjustable Velcro closures, storm flap, and throat tab eliminates the open gaps given more protection to the neck. The shoulders layout a two-piece curved set-in sleeve that improves elasticity and mobility. All seams of jacket and pants are double stitch with Nomex thread. The high visible 3M fluorescent yellow reflective flame tape sew throughout the jacket and pants depends on particular styles. Despite these standard features, MFG delight introduces an innovative technologic sensor that embeds into 3 M fluorescent yellow reflective flame tapes. It is a 3 in 1 data fabric determination sensor that includes three primary functions (Werner, 2018): Monitor harmful chemical agents in the air, Flame evaluation, and GPS to check the firefighter's location. When sensors detect the chemical reaction or threaten heat level, then the color of reflective tape shifts from yellow to blue, which signals the firefighters to make critical decisions immediately. The GPS offers real-time information to the commander, who can make a significant decision about the safety of their team members while working in a complex environment. Ultimately, the new wearable technology sensor adds a further edge of protection for every firefighter who risks their lives to save our family and property. They deserve the exceptional safety gear to protect themselves and their loved ones.

Floor Plan Layout

As mentioned before, Fire Wall MFG's store is in Shreveport-Bossier City, Louisiana. The store is made up of 1,200 square feet. In front of the store, there are display windows showcasing fire fighter jackets for the current spring season (Figure 9). There are two mannequins on each of the display windows, which are displaying the new Heat Tech fire fighter jackets. The mannequins on display will always have on the latest jacket from Fire Wall MFG. Upon entering the store, there are four small television screens in the shape of a square, explaining Fire Wall MFG's newest and latest technology, Heat Tech. Next to the four televisions, there's a showcase displaying the Heat Tech fabric along with other materials our jackets are made up of such as the lightweight fabric. On the right side of the store, there are jackets from the previous season along with any of the other jackets that are on sale or marked down in price. The racks on this side of the store only have what is left of that jacket, there is no backstock on those jackets. There is also a mirror on the right side in case customers want to try on any of the jackets that are there. On the left side of the store, there are two racks; one rack is the pants Fire Wall MFG offers to go along with the jackets. The second rack is Fire Wall MFG's new and current jackets with Heat Tech. Since there are only two different colored pairs of pants, there are one of each size per color on the rack. The second rack on the left side is the longest rack in the entire store. In this rack, there is one of each size per color of the jackets on the rack for our customers to interact with and try on. Next to the current season jackets, there is another mirror for the customers to use if they want to try on any of the merchandise on that side of the store. The checkout counter is located next to the mirror on the left side of the store. Behind the checkout counter, there is a door that leads to the back of the store, which is where Fire Wall MFG has its storage, keeps its inventory, receives shipments, has its offices, and where

Fire Wall MFG markets its products. No one can access this part of the store except for staff and employees. This part of the store can only be accessed through the checkout counter.

SKU

Fire Wall MFG Firefighter Uniform Inc.					
Open to buy Spring/Summer					
	Color #	Month	Size	SKU	IRN
21200	529- Yellow	February	S	21200-529-Feb-21-S	1
21200	529- Yellow	February	M	21200-529-Feb-21-M	2
21200	529- Yellow	February	L	21200-529-Feb-21-L	3
21200	529- Yellow	February	XL	21200-529-Feb-21-XL	4
21200	529- Yellow	February	XXL	21200-529-Feb-21-XXL	5
26428	601- Orange	January	S	21200-601-Feb-21-S	6
26428	601- Orange	January	M	21200-601-Feb-21-M	7
26428	601- Orange	February	L	21200-601-Feb-21-L	8
26428	601- Orange	February	XL	21200-601-Feb-21-XL	9
26428	601- Orange	February	XXL	21200-601-Feb-21-XXL	10
57200	800-Blue	January	S	57200-800-Feb-21-S	11
57200	800-Blue	February	M	57200-800-Feb-21-M	12
57200	800-Blue	February	L	57200-800-Feb-21-L	13
57200	800-Blue	February	XL	57200-800-Feb-21-XL	14
57200	800-Blue	February	XXL	57200-800-Feb-21-XXL	15
32100	601- Orange	February	S	32100-601-Feb-21-S	16
32100	601- Orange	February	M	32100-601-Feb-21-M	17
32100	601- Orange	February	L	32100-601-Feb-21-L	18
32100	601- Orange	February	XL	32100-601-Feb-21-XL	19
32100	601- Orange	February	XXL	32100-601-Feb-21-XXL	20
43800	800- Blue	February	34	43800-800-Feb-21-34	21
43800	800- Blue	February	36	43800-800-Feb-21-36	22
43800	800- Blue	February	38	43800-800-Feb-21-38	23
43800	800- Blue	February	40	43800-800-Feb-21-39	24

43800	800- Blue	February	42	43800-800-Feb-21-40	25
43800	800- Blue	February	44	43800-800-Feb-21-41	26
43800	465-Violet	February	34	43800-465-Feb-21-34	27
43800	465-Violet	February	36	43800-465-Feb-21-36	28
43800	465-Violet	February	38	43800-465-Feb-21-38	29
43800	465-Violet	February	40	43800-465-Feb-21-40	30
43800	465-Violet	February	42	43800-465-Feb-21-42	31
43800	465-Violet	February	44	43800-465-Feb-21-44	32
43800	601 - Orange	February	34	43800-601-Feb-21-34	33
43800	601 - Orange	February	36	43800-601-Feb-21-36	34
43800	601 - Orange	February	38	43800-601-Feb-21-38	35
43800	602 - Orange	February	40	43800-601-Feb-21-40	36
43800	603 - Orange	February	42	43800-601-Feb-21-42	37
43800	604 - Orange	February	44	43800-601-Feb-21-44	38
43800	329-Black	February	34	43800-329-Feb-21-34	39
43800	329-Black	February	36	43800-329-Feb-21-36	40
43800	329-Black	February	38	43800-329-Feb-21-38	41
43800	329-Black	February	40	43800-329-Feb-21-40	42
43800	329-Black	February	42	43800-329-Feb-21-42	43
43800	329-Black	February	44	43800-329-Feb-21-44	44
43800	529- Yellow	February	34	43800-529-Feb-21-34	45
43800	529- Yellow	February	36	43800-529-Feb-21-36	46
43800	529- Yellow	February	38	43800-529-Feb-21-38	47
43800	529- Yellow	February	40	43800-529-Feb-21-40	48
43800	529- Yellow	February	44	43800-529-Feb-21-44	49
21730	228- Burgundy	March	S	21730-228-Mar-21-S	50
21730	228- Burgundy	March	M	21730-228-Mar-21-M	51
21730	228- Burgundy	March	L	21730-228-Mar-21-L	52
21730	228- Burgundy	March	XL	21730-228-Mar-21-XL	53
21730	228- Burgundy	March	XXL	21730-228-Mar-21-XXL	54
21730	501-Tan	March	S	21730-501-Mar-21-S	55

21730	501-Tan	March	M	21730-501-Mar-21-M	56
21730	501-Tan	March	L	21730-501-Mar-21-L	57
21730	501-Tan	March	XL	21730-501-Mar-21-XL	58
21730	501-Tan	March	XXL	21730-501-Mar-21-XXL	59
21730	501-Tan	March	S	21730-501-Mar-21-S	60
21730	501-Tan	March	M	21730-501-Mar-21-M	61
21730	501-Tan	March	L	21730-501-Mar-21-L	62
21730	501-Tan	March	XL	21730-501-Mar-21-XL	63
21730	501-Tan	March	XXL	21730-501-Mar-21-XXL	64
47501	701-Forest Green	March	S	47501-701-Mar-21-XS	65
47501	701-Forest Green	March	M	47501-701-Mar-21-M	66
47501	701-Forest Green	March	L	47501-701-Mar-21-L	67
47501	701-Forest Green	March	XL	47501-701-Mar-21-XL	68
47501	701-Forest Green	March	XXL	47501-701-Mar-21-XXL	69
10225	329-Black	March	S	10225-329-Mar-21-S	70
10225	329-Black	March	M	10225-329-Mar-21-M	71
10225	329-Black	March	L	10225-329-Mar-21-L	72
10225	329-Black	March	XL	10225-329-Mar-21-XL	73
10225	329-Black	March	XXL	10225-329-Mar-21-XXL	74
57200	601- Orange	March	S	57200-601-Mar-21-S	75
57200	601- Orange	March	M	57200-601-Mar-21-M	76
57200	601- Orange	March	L	57200-601-Mar-21-L	77
57200	601- Orange	March	XL	57200-601-Mar-21-XL	78
57200	601- Orange	March	XXL	57200-601-Mar-21-XXL	79
43800	501- Tan	March	34	43800-501-Mar-21-34	80
43800	501- Tan	March	36	43800-501-Mar-21-36	81
43800	501- Tan	March	38	43800-501-Mar-21-38	82
43800	501- Tan	March	40	43800-501-Mar-21-40	83
43800	501- Tan	March	42	43800-501-Mar-21-42	84
43800	310-Brown	March	34	43800-310-Mar-21-34	85
43800	310-Brown	March	36	43800-310-Mar-21-36	86

43800	310-Brown	March	38	43800-310-Mar-21-38	87
43800	310-Brown	March	40	43800-310-Mar-21-40	88
43800	310-Brown	March	42	43800-310-Mar-21-42	89
43800	310-Brown	March	44	43800-310-Mar-21-44	90
43800	800- Blue	March	34	43800-800-Mar-21-34	91
43800	800- Blue	March	36	43800-800-Mar-21-36	92
43800	800- Blue	March	38	43800-800-Mar-21-38	93
43800	800- Blue	March	40	43800-800-Mar-21-30	94
43800	800- Blue	March	42	43800-800-Mar-21-42	95
43800	800- Blue	March	44	43800-800-Mar-21-44	96
43800	601- Orange	March	34	43800-601-Mar-21-34	97
43800	601- Orange	March	36	43800-601-Mar-21-36	98
43800	601- Orange	March	38	43800-601-Mar-21-38	99
43800	601- Orange	March	40	43800-601-Mar-21-40	100
43800	601- Orange	March	42	43800-601-Mar-21-42	101
43800	601- Orange	March	44	43800-601-Mar-21-44	102
21200	501-Tan	April	S	21200-501-Apr-21-S	103
21200	501-Tan	April	M	21200-501-Apr-21-M	104
21200	501-Tan	April	L	21200-501-Apr-21-L	105
21200	501-Tan	April	XL	21200-501-Apr-21-XL	106
21200	501-Tan	April	XXL	21200-501-Apr-21-XXL	107
10225	329- Black	April	S	10225-329-Apr-21-S	108
10225	329- Black	April	M	10225-329-Apr-21-M	109
10225	329- Black	April	L	10225-329-Apr-21-L	110
10225	329- Black	April	XL	10225-329-Apr-21-XL	111
10225	329- Black	April	XXL	10225-329-Apr-21-XXL	112
32100	800- Blue	April	S	32100-800-Apr-21-S	113
32100	800- Blue	April	M	32100-800-Apr-21-M	114
32100	800- Blue	April	L	32100-800-Apr-21-L	115
32100	800- Blue	April	XL	32100-800-Apr-21-XL	116
32100	800- Blue	April	XXL	32100-800-Apr-21-XXL	117

OPEN TO BUY PROJECT

32100	800- Blue	April	XXL	32100-800-Apr-21-XXL	118
26428	501-Tan	March	S	26428-501-Apr-21-S	119
26428	501-Tan	April	M	26428-501-Apr-21-M	120
26428	501-Tan	April	L	26428-501-Apr-21-L	121
26428	501-Tan	April	XL	26428-501-Apr-21-XL	122
26428	501-Tan	April	XXL	26428-501-Apr-21-XXL	123
26428	601- Orange	March	S	26428-601-Apr-21-S	124
26428	601- Orange	April	M	26428-601-Apr-21-M	125
26428	601- Orange	May	L	26428-601-Apr-21-L	126
26428	601- Orange	April	XL	26428-601-Apr-21-XL	127
26428	601- Orange	April	XXL	26428-601-Apr-21-XXL	128
62500	310- Brown	April	S	43800-310-Mar-21-S	129
62500	310- Brown	May	M	43800-310-Mar-21-M	130
62500	310- Brown	April	L	43800-310-Mar-21-L	131
62500	310- Brown	April	XL	43800-310-Mar-21-XL	132
62500	310- Brown	May	XXL	43800-310-Mar-21-XXL	133
43800	701- Forest Green	April	34	43800-701-Apr-21-34	134
43800	701- Forest Green	April	36	43800-701-Apr-21-36	135
43800	701- Forest Green	April	38	43800-701-Apr-21-38	136
43800	701- Forest Green	April	40	43800-701-Apr-21-40	137
43800	701- Forest Green	April	42	43800-701-Apr-21-42	138
43800	701- Forest Green	April	44	43800-701-Apr-21-44	139
43800	329-Black	April	34	43800-329-Apr-21-34	140
43800	329-Black	April	36	43800-329-Apr-21-36	141
43800	329-Black	April	38	43800-329-Apr-21-38	142
43800	329-Black	April	40	43800-329-Apr-21-40	143
43800	329-Black	April	42	43800-329-Apr-21-42	144
43800	329-Black	April	44	43800-329-Apr-21-44	145
43800	465-Violet	April	34	43800-465-Apr-21-34	146
43800	465-Violet	April	36	43800-465-Apr-21-36	147
43800	465-Violet	April	38	43800-465-Apr-21-38	148
43800	501- Tan	April	34	43800-501-Apr-21-34	149
43800	501- Tan	April	36	43800-501-Apr-21-36	150
43800	501- Tan	April	38	43800-501-Apr-21-38	151
43800	501- Tan	April	40	43800-501-Apr-21-40	152
43800	501- Tan	April	42	43800-501-Apr-21-42	153
43800	501- Tan	April	44	43800-501-Apr-21-44	154
43800	228- Burgundy	April	34	43800-228-Apr-21-34	155
43800	228- Burgundy	April	36	43800-228-Apr-21-36	156
43800	228- Burgundy	April	38	43800-228-Apr-21-38	157
43800	228- Burgundy	April	42	43800-228-Apr-22-42	158
43800	228- Burgundy	April	44	43800-228-Apr-22-44	159

OPEN TO BUY PROJECT

21730	501-Tan	May	XS	21730-501-May-21-XS	160
21730	501-Tan	May	S	21730-501-May-21-S	161
21730	501-Tan	May	M	21730-501-May-21-M	162
21730	501-Tan	May	L	21730-501-May-21-L	163
21730	501-Tan	May	XL	21730-501-May-21-XL	164
21730	501-Tan	May	XXL	21730-501-May-21-XXL	165
26428	759-Orange	May	XS	26428-759-May-XS	166
26428	759-Orange	May	S	26428-759-May-S	167
26428	759-Orange	May	M	26428-759-May-M	168
26428	759-Orange	May	L	26428-759-May-L	169
26428	759-Orange	May	XL	26428-759-May-XL	170
26428	759-Orange	May	XXL	26428-759-May-XXL	171
32580	601- Orange	May	XS	32580-601-May-XS	172
32580	601- Orange	May	S	32580-601-May-S	173
32580	601- Orange	May	M	32580-601-May-M	174
32580	601- Orange	May	L	32580-601-May-L	175
32580	601- Orange	May	XL	32580-601-May-XL	176
32580	601- Orange	May	XXL	32580-601-May-XXL	177
43800	800- Blue	May	34	43800-800-May-21-34	178
43800	800- Blue	May	36	43800-800-May-21-36	179
43800	800- Blue	May	38	43800-800-May-21-38	180
43800	800- Blue	May	40	43800-800-May-21-39	181
43800	800- Blue	May	42	43800-800-May-21-40	182
43800	800- Blue	May	44	43800-800-May-21-41	183

43800	501- Tan	May	34	43800-501-May-21-34	184
43800	501- Tan	May	36	43800-501-May-21-36	185
43800	501- Tan	May	38	43800-501-May-21-38	186
43800	501- Tan	May	40	43800-501-May-21-40	187
43800	501- Tan	May	42	43800-501-May-21-42	188
43800	501- Tan	May	44	43800-501-May-21-44	189
43800	601- Orange	May	34	43800-601-May-21-34	190
43800	601- Orange	May	36	43800-601-May-21-36	191
43800	601- Orange	May	38	43800-601-May-21-38	192
43800	601- Orange	May	40	43800-601-May-21-40	193
43800	601- Orange	May	42	43800-601-May-21-42	194
43800	601- Orange	May	44	43800-601-May-21-44	195
43800	310-Brown	May	34	43800-310-May-21-34	196
43800	310-Brown	May	36	43800-310-May-21-36	197
43800	310-Brown	May	38	43800-310-May-21-38	198
43800	310-Brown	May	40	43800-310-May-21-40	199
43800	310-Brown	May	42	43800-310-May-21-42	200
43800	310-Brown	May	44	43800-310-May-21-44	201
21200	501-Tan	June	XS	39802-918-June- XS	202
21200	501-Tan	June	S	39802-918-June- S	203
21200	501-Tan	June	M	39802-918-June- M	204
21200	501-Tan	June	L	39802-918-June- L	205
21200	501-Tan	June	XL	39802-918-June- XL	206
21200	501-Tan	June	XXL	39802-918-June- XXL	207

39802	701-Forest Green	June	XS	39802-701-June-XS	208
39802	701-Forest Green	June	S	39802-701-June-S	209
39802	701-Forest Green	June	M	39802-701-June-M	210
39802	701-Forest Green	June	L	39802-701-June-L	211
39802	701-Forest Green	June	XL	39802-701-June-XL	212
39802	701-Forest Green	June	XXL	39802-701-June-XXL	213
78492	329- Black	June	XS	78492-329-June-XS	214
78492	329- Black	June	S	78492-329-June-S	215
78492	329- Black	June	M	78492-329-June-M	216
78492	329- Black	June	L	78492-329-June-L	217
78492	329- Black	June	XL	78492-329-June-XL	218
78492	329- Black	June	XXL	78492-329-June-XXL	219
43800	701- Forest Green	June	34	43800-701-June-21-34	220
43800	701- Forest Green	June	36	43800-701-June-21-36	221
43800	701- Forest Green	June	38	43800-701-June-21-38	222
43800	701- Forest Green	June	40	43800-701-June-21-40	223
43800	701- Forest Green	June	42	43800-701-June-21-42	224
43800	701- Forest Green	June	44	43800-701-June-21-44	225
43800	501- Tan	June	34	43800-501-June-21-34	226
43800	501- Tan	June	36	43800-501-June-21-36	227
43800	501- Tan	June	38	43800-501-June-21-38	228
43800	501- Tan	June	40	43800-501-June-21-40	229
43800	501- Tan	June	42	43800-501-June-21-42	230
43800	501- Tan	June	44	43800-501-June-21-44	231

43800	329-Black	June	34	43800-329-June-21-34	232
43800	329-Black	June	36	43800-329-June-21-36	233
43800	329-Black	June	38	43800-329-June-21-38	234
43800	329-Black	June	40	43800-329-June-21-40	235
43800	329-Black	June	42	43800-329-June-21-42	236
43800	329-Black	June	44	43800-329-June-21-44	237
21730	501-Tan	July	XS	21730-501-July-XS	238
21730	501-Tan	July	S	21730-501-July-S	239
21730	501-Tan	July	M	21730-501-July-M	240
21730	501-Tan	July	L	21730-501-July-L	241
21730	501-Tan	July	XL	21730-501-July-XL	242
21730	501-Tan	July	XXL	21730-501-July-XXL	243
78492	329- Black	July	XS	78492-329-July-XS	244
78492	329- Black	July	S	78492-329-July-S	245
78492	329- Black	July	M	78492-329-July-M	246
78492	329- Black	July	L	78492-329-July-L	247
78492	329- Black	July	XL	78492-329-July-XL	248
78492	329- Black	July	XXL	78492-329-July-XXL	249
21730	228- Burgundy	July	S	21730-228-July-21-S	250
21730	228- Burgundy	July	M	21730-228-July-21-M	251
21730	228- Burgundy	July	L	21730-228-July-21-L	252
21730	228- Burgundy	July	XL	21730-228-July-21-XL	253
21730	228- Burgundy	July	XXL	21730-228-July-21-XXL	254
43800	228- Burgundy	July	34	43800-228-July-21-34	255

43800	228- Burgundy	July	36	43800-228-July-21-36	256
43800	228- Burgundy	July	38	43800-228-July-21-38	257
43800	228- Burgundy	July	40	43800-228-July-21-40	258
43800	228- Burgundy	July	42	43800-228-July-22-42	259
43800	228- Burgundy	July	44	43800-228-July-22-44	260
43800	529- Yellow	July	34	43800-529-July-21-34	261
43800	529- Yellow	July	36	43800-529-July-21-36	262
43800	529- Yellow	July	38	43800-529-July-21-38	263
43800	529- Yellow	July	40	43800-529-July-21-40	264
43800	529- Yellow	July	42	43800-529-July-21-42	265
43800	529- Yellow	July	44	43800-529-July-21-44	266
43800	329-Black	July	34	43800-329-July-21-34	267
43800	329-Black	July	36	43800-329-July-21-36	268
43800	329-Black	July	38	43800-329-July-21-38	269
43800	329-Black	July	40	43800-329-July-21-40	270
43800	329-Black	July	42	43800-329-July-21-42	271
43800	329-Black	July	44	43800-329-July-21-44	272

Style Descriptions

Style # 43800

Color Available: Black, Violet, Forest Green, Yellow, Brown, Orange, Blue, Burgundy, and Tan

Product Description: Turnout pants with suspenders, 2” wide Kevlar® belt with belt handle grip, snap, and Velcro® fly closure, expansion pocket with Kevlar® Twill, black stedshield double padded knees, yellow 3 M™ Scotchlite™ Reflective, reverse boot cut, LazerMax™ Trim

Fabric Material: Nomex® IIIA. Plain weave

Style # 10225 (Figure 1)

Color Available (outer shell): Black, Violet

Product Description: Skeleton Torso and Sleeve Bones glow in the dark, one radio pocket on left, set-in pockets on each side, knitted cuffs with thumb hold inside the sleeve, pleat on the back of shoulder and sleeves and 3M™ Fluorescent yellow tape on the back, cuffs and hem.

Outer Shell: 80% Nomex®/Kevlar® blend spun yarn with 20% Kevlar® filament yarn. Twill weave.

Moisture Barriers: Nomex® non-woven spun lace

Thermal Liners: 100% spun Nomex®

Style # 32100 (Figure 2)

Color Available (outer shell): Orange, Blue

Product Description: One radio pocket on the left chest, flap pocket on each side of body, adjustable belt, V-shape 2” Reflective yellow tape the chest and back, and special vertical pattern on the cuffs and hem that glow at dark, and pleat on the back of shoulder and sleeves.

Outer Shell: Kevlar® (60%)/PBI (40%) blend filament yarn. Plain weave.

Moisture Barriers: PBI®/Nomex® blend non-woven spun lace

Thermal Liners: Meta-aramid, FR modacrylic (spun)

Style # 47501 (Figure 3)

Color Available (outer shell): Forest Green, Tan

Product Description: Patch pockets of the left, large cargo pocket on each side, elbows patch with abrasion resistant material, knitted cuffs with thumb hold inside the sleeve, yellow fluorescent tape across the shoulder and back, and as well as cuffs and the hem.

Outer Shell: Nomex® (93%), Kevlar® (5%), Anti-Static blend (2%) blend spun yarn. Plain weave.

Moisture Barriers: Nomex® non-woven spun lace

Thermal Liners: Filament Nomex® and COOLDERM™ technology

Style # 62500 (Figure 4)

Color Available (outer shell): Brown, Tan

Product Description: Flap pocket on each side, elastic cuffs, fluorescent zigzag pattern over the shoulder glow at dark, 3 M Reflective tapes at front, sleeve, and hem, 3 D fire figure on the back sparkle in the dark, and pleat on the shoulder and sleeves.

Outer Shell: Kevlar®/Nomex®. Twill weave with Tencate Enforce Technology

Moisture Barriers: Nomex® fabric woven from spun fibers.

Thermal Liners: 100% spun Nomex®

Style # 57200 (Figure 5)

Color Available (outer shell): Blue, Orange

Product Description: Small flap pocket on the right sleeve, one radio pocket on the left, one cargo pocket on the bottom left, pleat design on the back, pleat on the shoulder and sleeves, 3 M Reflective tapes on cuffs, arms, chest, and waist.

Outer Shell: 70% PBI/Kevlar® blend spun yarn with 30% Kevlar® filament yarn. Twill

weave.

Moisture Barriers: Nomex® fabric woven from spun fibers.

Thermal Liners: 100% spun Nomex®

Style # 21730 (Figure 6)

Color Available (outer shell): Tan, Burgundy

Product Description: Flap pocket on each side of the chest, large cargo pocket on each side of bottom, knitted cuffs with thumb hold inside the sleeve, fluorescent trim across the cuffs, arms, and body.

Outer Shell: Kevlar®/Nomex®/PBO blend. Twill weave.

Moisture Barriers: Nomex non-woven pajama check.

Thermal Liners: Filament Nomex® and COOLDERM™ technology

Style # 21200 (Figure 7)

Color Available (outer shell): Tan, Yellow

Product Description: One radio packet on the left, large cargo pocket on each side of bottom, yellow fluorescent trim across the cuffs, arms, chest, and hem, a big splash water graphic figure on the back, and pleats on the back of shoulder and sleeves.

Outer Shell: Nomex® IIIA. Plain weave

Moisture Barriers: Nomex non-woven pajama check

Thermal Liners: Meta-aramid, FR modacrylic (spun)

Style # 26428 (Figure 8)

Color Available: Tan, orange

Product Description: small cargo pocket on each side, welt pockets on each side of bottom, knitted cuffs with thumb hold inside the sleeve, 3 M™ Scotchlite™ reflective yellow tapes

from shoulder toward cuffs, chest, and across the hem, pleat design on the back.

Outer Shell: Nomex® IIIA. Plain weave

Moisture Barriers: Nomex® fabric woven from spun fibers.

Thermal Liner: 100% spun Nomex®

Fabric Selection

Nomex/Kevlar blend



Nomex



Kevlar



Technora



Color Palettes

Blue 5 #c5d9ed	Blue 10 #9ec2e6	Blue 20 #72aee5	Blue 30 #4f94d4	Blue 40 #3582c4	Blue 50 #2271b1	Blue 60 #135e98	Blue 70 #0a4b78	Blue 80 #043959	Blue 90 #01263a	Blue 100 #00131c	
Gray 2 #f0f0f1	Gray 5 #dcdcdc	Gray 10 #c3c3c7	Gray 20 #a7a7ad	Gray 30 #8c8f94	Gray 40 #787c82	Gray 50 #646970	Gray 60 #50575e	Gray 70 #3c434a	Gray 80 #2c3338	Gray 90 #1d2327	Gray 100 #101517
Red 5 #fcd2d2	Red 10 #ffabaf	Red 20 #ff8085	Red 30 #ff6368	Red 40 #e65c54	Red 50 #c63638	Red 60 #b32d2e	Red 70 #8a2424	Red 80 #691c1c	Red 90 #451313	Red 100 #240a0a	
Yellow 5 #f5e6ab	Yellow 10 #f2d675	Yellow 20 #f0c33c	Yellow 30 #dba617	Yellow 40 #bd8600	Yellow 50 #996800	Yellow 60 #755100	Yellow 70 #614200	Yellow 80 #4a3200	Yellow 90 #362400	Yellow 100 #211600	
Green 5 #b8e6bf	Green 10 #68de7c	Green 20 #1ed14b	Green 30 #00ba37	Green 40 #00a32a	Green 50 #008a20	Green 60 #007017	Green 70 #005c12	Green 80 #00450c	Green 90 #003008	Green 100 #001c05	

BLUE									
blue-100	blue-200	blue-300	blue-400	blue-500	blue-600	blue-700	blue-800	blue-900	
INDIGO									
indigo-100	indigo-200	indigo-300	indigo-400	indigo-500	indigo-600	indigo-700	indigo-800	indigo-900	
PURPLE									
purple-100	purple-200	purple-300	purple-400	purple-500	purple-600	purple-700	purple-800	purple-900	
PINK									
pink-100	pink-200	pink-300	pink-400	pink-500	pink-600	pink-700	pink-800	pink-900	
RED									
red-100	red-200	red-300	red-400	red-500	red-600	red-700	red-800	red-900	
ORANGE									
orange-100	orange-200	orange-300	orange-400	orange-500	orange-600	orange-700	orange-800	orange-900	
YELLOW									
yellow-100	yellow-200	yellow-300	yellow-400	yellow-500	yellow-600	yellow-700	yellow-800	yellow-900	

Open-to-Buy Plans

Currently, the existing retail worth \$1,236,000 and \$618,000 available to spend for the coming spring/Summer season purchase plan. Since the inventory is a significant element for the cash flow, a company should accurately forecast based on past sales patterns and adjustments for various current considerations like trends or economic fluctuations (Easterling et al., 2013, 257). Sometimes, the planned purchase is quite challenged. Business depends on sales for the revenue. The company will lose profit if the store doesn't have sufficient stock to meet the customer's demand. The customers will go to one's competitors, leaving a negative impression on the company. On the other hand, excess inventory might profoundly affect markdown, disrupt the cash flow for new merchandise, and minimize the profit. While the turnover rate is far below the expectation, the company has to tie up liquid funds using daily operating expenses such as payroll or rent.

	February	March	April	May	June	July
Planned Sales	\$300,000	\$200,000	\$300,000	\$200,000	\$400,000	\$250,000
Total Reduction(+)	\$20,000	\$26,000	\$31,000	\$17,000	\$46,000	\$50,000
Planned EOM Stock(+)	\$200,000	\$80,000	\$110,000	\$90,000	\$210,000	\$70,000
Total monthly needs	\$520,000	\$306,000	\$441,000	\$307,000	\$656,000	\$370,000
BOM(-)	\$160,000	\$200,000	\$80,000	\$110,000	\$90,000	\$210,000
= Planned Purchase	\$360,000	\$106,000	\$361,000	\$197,000	\$566,000	\$160,000
Merchandise on Order(-)	\$125,000	\$15,000	\$145,000	\$35,000	\$170,000	\$24,000
= Open to Buy (At Retail)	\$243,000	\$91,000	\$216,000	\$162,000	\$396,000	\$136,000
B4 (Markdown % for each month)	2.67%	6%	1.33%	1.5%	4.5%	10%

B2. Average Monthly Sales:

$(\$300,000 + \$200,000 + \$300,000 + \$200,000 + \$400,000 + \$250,000)/6 = \$275,000$

B3. Average Monthly on Order:

$(\$125,000 + \$15,000 + \$145,000 + \$35,000 + \$170,000 + \$24,000)/6 = \$85,666.67$

February

Employee Discount: $\$300,000 \times 2\% = \$6,000$

Shortage: $\$300,000 \times 2\% = \$6,000$

Markdown: $\$8,000$

Total deduction: $\$20,000$

Markdown %: $(\$8,000/\$300,000) \times 100 = 2.67\%$

March

Employee Discount: $\$200,000 \times 3\% = \$6,000$

Shortage: $\$200,000 \times 4\% = \$8,000$

Markdown: $\$12,000$

Total deduction: $\$26,000$

Markdown % = $(\$12,000/\$200,000) \times 100 = 6\%$

April

Employee Discount: $\$300,000 \times 4\% = \$12,000$

Shortage: $\$300,000 \times 5\% = \$15,000$

Markdown: $\$4,000$

Markdown % = $(\$4,000/\$300,000) \times 100 = 1.33\%$

May

Shortage: $\$200,000 \times 7\% = \$14,000$

Markdown: $\$3,000$

Markdown % = $(\$3,000/\$200,000) \times 100 = 1.5\%$

June

Employee Discount: $\$400,000 \times 5\% = \$20,000$

Shortage: $\$400,000 \times 2\% = \$8,000$

Markdown: $\$18,000$

Markdown % = $(\$18,000/\$400,000) \times 100 = 4.5\%$

July

Employee Discount: $\$250,000 \times 7\% = \$17,500$

Shortage: $\$250,000 \times 3\% = \$7,500$

Markdown: $\$25,000$

Markdown % = $(\$25,000/\$250,000) \times 100 = 10\%$

B1

February Open To Buy

 $300,000 + 200,000 + 4\% + 8000$
 $528,000 - 160,000$
 $368,000 - 125,000$
 $OTB = \$243,000$

March Open To Buy

 $200,000 + 7\% + 12,000 + 80,000$
 $306,000 - (200,000 + 15,000)$
 $OTB = \$91,000$

April Open To Buy

 $300,000 + 9\% + 4,000 + 110,000$
 $441,000 - (145,000 + 80,000)$
 $OTB = \$216,000$

May Open To Buy

 $200,000 + 7\% + 3,000 + 90,000$
 $307,000 - (110,000 + 35,000)$
 $OTB = \$162,000$

June Open To Buy

 $400,000 + 7\% + 18,000 + 210,000$
 $656,000 - (170,000 + 90,000)$
 $OTB = 396,000$

July Open To Buy

 $250,000 + 10\% + 25,000 + 70,000$
 $370,000 - (210,000 + 24,000)$
 $OTB = \$136,000$

B2

All Months plans sales added up

 $1,650,000 / 6 =$

Average Monthly Sales = \$275,000

B3

All On Orders added up

 $514,000 / 6$

Average Monthly On Orders = \$85,666.67

B4

 $\$70,000 / 1,650,000$

Markdown % = 4.24%

Part C 1

New Projected Average Sales Plan for the next season = Total of all planned sales * 6.2%

Total of all planned sales: \$300,000 + \$200,000 + \$300,000 + \$200,000 + \$400,000 + \$250,000 =
\$1,650,000

New Projected Average Sales Plan for the next season = \$1,650,000 * 6.2%

New Projected Average Sales Plan for the next season = \$1,752,000

Part C 2

\$1,820,000 - \$1,752,000 = \$68,000

The prior year had a decrease in the sales period. One reason for this decrease is a possible decrease in fires throughout the state. Another reason is possible cuts in funds for fire departments. Another reason could be a competitor could have created a similar jacket as Fire Wall MFG at a lower cost.

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Figures

Figure 1- 10225



Figure 2 - 32100



Figure 3- 47501



Figure 4 - 62500



Figure 5 - 57200



Figure 6 - 21730



Figure 7- 21200



Figure 8 - 26428



Figure 9 - Floor Layout

